Chapter- 2

Methodology
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2.1 Methodology

This chapter deals with a detailed explanation about the study area, selection of crops, sources and collection of data and various statistical methods which have been used to fulfill the purpose of the present study. The whole chapter is divided into three sections: Section 3.1 deals with the selection of study area and crops. Sources and collection of data are presented in section 3.2 while analytical techniques and statistical tools that are used for analyzing the data and interpretation of results are presented in section 3.3.

2.2 Sources Of Data

A. Primary data

This was done using a survey with the help of different sets of structured questionnaires for small and Marginal Farmers as well.

B. Secondary data

This was gathered from books and publications, magazines, internet, journals and periodicals, etc.

2.3 Research Design

Descriptive Quantitative Cross-sectional Research

The research intends to quantify the effectiveness of loyalty programs and discounting schemes in terms of increase/ decrease in production on account of holdings of small and Marginal Farmers. The research would also make an attempt to describe the attitudinal behaviour of the respondents for their respective income and expenditure pattern. It would be temporal in nature.
and would be conducted on a sub-section of the respondent population. Hence the research is Descriptive Quantitative Cross-sectional Research.

2.4 Sampling Type

Stratified Random Sampling

The sampling was involving division of the small and Marginal Farmers into smaller strata with respect to variables like their land holdings, production, income and expenditure. A random sample from each stratum was taken in a number proportional to the stratum's size when compared to the population. These subsets of the strata was then be pooled to form a random sample. This Sampling type will be adopted to reduce the potential for human bias in the selection of units of analysis to be included in the sample. Stratified random sample was providing us with an unbiased and diversified sample. Thus the sampling used was Stratified Random Sampling.

2.5 Sample Size

The Total Sample Size is 180

A. Farmers
   1. Small Farmers – 60
   2. Marginal Farmers – 60
   3. Medium farmers – 60

2.6 Sampling Frame

Respondents in the Age Group of 20 – 50 years

The sampling frame comprised of individuals in the age group of 20 – 50 years and must have land holdings at least one acre to ten acres

2.7 Research Area

Research is based on Haryana.
The area chosen for research is Haryana as this region having maximum peasantry population of small and Marginal Farmers. Respondents are well diversified in terms of their land holdings, production, income and expenditure. Hence the responses would be expected to be diversified and unbiased.
2.8 Delimitation Of The Study

1. Keeping in view the time and resources. The study is delimited to three Districts only.
2. Only those department and agencies, which are promoting and developing agriculture in Haryana will be discussed.

2.9 Selection of districts.

The present study is an empirical analysis of the economic conditions of the Marginal Farmers in rural Haryana. It is an analysis in which an attempt has been made to highlight the levels of living of the Marginal Farmers in the rural areas of Haryana.

Haryana as a whole is dominated by Marginal Farmers and they are the ones who have brought this food revolution in Haryana. In spite of various limitations, and problems irrigation is the main component for all agricultural operation in India and Haryana is no exception to it.

Major part of Haryana is rural, and its population lives in villages. Majority of village work force depends on agriculture for employment and livelihood.

Three selected districts have been serialized and three basis have been adopted for their selection. The basis is listed in their order of importance for the purposes of this study. These are:

A. Basis of per-hectare productivity:

Since agricultural productivity is the major determinant of rural incomes in the agricultural economy of Haryana, the state has been divided into three regions on the basis of levels of agricultural productivity. Average productivity per hectare is estimated by aggregation of the output of 10 major crops of the state for the year 2010-2011.

There are 21 districts in Haryana. For selection of the districts, these have been classified in three groups. Per hectare productivity of ten major groups i.e. wheat American cotton, Desi Cotton, Sugarcane, Paddy, Sarso(Rapeseed mustered) Maize, Barley, Gram, and Jawar has been taken. To arrive at the productivity per-hectare total area multiplied by Average yield and price of the same year, than found gross total value of that Per-hectare productivity = Total gross value divided by total cultivable area
In case of some districts the yield of Jawar, Cotton, Barley, Gram and sugarcane is not found. In special case of district Kurukshetra, per hectare productivity depends on only three major crops. Production of other crops is nil in Kurukshetra. Percentage of production of wheat and paddy is more than fifty percent in total production of all the districts of Haryana.

It indicates that district Karnal has recorded highest per-hectare productivity in Group 1. In the same order, serially the districts i.e. Kurukshetra, Panipat, Kaithal, Faridabad and Jind are in the group of high per-hectare. Productivity out of the group No. 1 of six districts, Karnal has been selected. Productivity of this group is between 27013.56 to 3411.75

In the second group Rewari is highest in per-hectare productivity than thereafter faridabad, Sirsa, Hissar, Yamuna Nagar and Gurgaon at the last number in per hectare Productivity. Productivity of this group is between 18865.20 to 24969.60. District Rewari has been selected from this group.

Last group of districts in per-hectare productivity is Sonepat, Rohtak, Mohindergarh, jhajjar, Bhiwani, Ambala and Panchkula. Their productivity is between 6844.44 to 18635.13. From this group District Rohtak has been taken. Six districts are in developed category, seven districts are in less developed category and balance six districts are least developed category. For our study and to ensure balance one districts from each category has been chosen. The condition of Marginal Farmers in a developed district is definitely different than the MARGINAL FARMERS of a less developed district. A comparison of their state of economic development has also been carried out.

**B. Selection on the basis of Geographical location of the state**

Second main basis for selection of districts geographical location of state Haryana, is divided into three zone according to the map of Haryana or geographical location. Zones are, North, Center and South. In the north zone, Panchkula, Ambla, Yamuna Nagar, Karnal, Kurukshetra and Kaithal districts have been taken from the state.

Districts Panipat, Jind, Sonepat, Rohtak, Bhiwani, Hissar, Sirsa, and Fatehabad have been selected for the Center Zone. In the southern zone of the state, districts Jhajjar, Faridabad, Gurgaon, Rewari and Mohendergarh have been selected. District Kamal in the Center of north
zone has been taken for the study and district Rohtak has been selected as a center place of the center zone. District Rewari is also center point of southern.

C. Selection of Districts on the basis of intensity of land use:

The third Main basis for selection of districts is intensity of land use as per the statistical abstract of Haryana. The maximum intensive land use is in Kurukshetra, with 1.94, and then in the middle order, it is Panipat with 1.79 and least intensity of land used in Sonepat. It has been calculated by number of crops taken from a part of land in a year. No. of crops taken from a part of land in a year has great effect on the cultivator’s income and expenditure, ultimately the income and expenditure directly effects the farmer’s levels of living. It shows the intensity of land use of group I, is between 1.82 to 1.94. Karnal has been selected from this group. In the second group the top most district is Panipat and the remaining districts are Bhiwani, Mahindergarh, Sirsa and Ambala. The intensity of land use of this group is between 1.63 to 1.79.

In the last group, the top District in land use is Sonepat. The remaining district are Yamuna Nagar, Faridabad, Rewari, Grugaon, Jhajjar, Rohtak and Panchkulla in order. Intensity of land use is between 1.12 to 1.61 of this group. Based on the above main criteria, three districts (Karnal, Rewari, Rohtak) have been selected for the study in rural Haryana.

2.10 Selection of Villages

In order to ascertain the position of Marginal Farmers, a study of block level is carried out. Three criteria have been used for the selection of the villages.

A. First criteria is that two villages from each block have been selected, so that it is widely distributed and whole district is covered.

B. The second selection criteria is the location of the village. It is decided that it should be at a minimum distance of 15K.M from City/Town or District headquarters to arrive at realistic assessment of the level of living of MARGINAL FARMERS in rural area. For distance less than this will certainly be affected by the City/Town environment and urban aspects.

C. Third criteria is that the households of M.F's should be around 48% of a village population of farmers so that the true picture of living standard of M.F's is represented.
All the villages have been selected on the above criteria for the purpose of this study.

In case of our selected villages, the distance of all the village from the town was more than fifteen kilometers. This criterion was followed to differentiate the rural analysis from the urban one. The climate is generally fit for the physical health of the people. It is hot in summer and cold in winter. June is mostly the hottest month. Rainfall comes mostly in July and lasts till September. Winter season starts in November and lasts till mid March. The main source of irrigation in the village are tubewells and canals. The soil of Karnal is better and more suitable than that of the Districts Rohtak and Rewari. The main crops of the selected villages are wheat, rice, jawar, bajra, sarso, sugarcane, mustard and gram etc. The villages appears to be divided into caste quarters. But it is difficult to determine the boundaries of these blocks without fully investigating it. Jats and Ahir in district Rohtak and Rewari are the largest group of households are found dispersed throughout the villages. Regarding the arrangements of houses these are built close—up against each other. Most of houses are Pucca and only a few houses are kaccha houses. Most of the houses are built in old and traditional style.

Most of the villages are peasants by profession. There are several channels of communication line radio T.V., newspapers through which the villages are connected with the world outside. There are many school (Govt. & private) in the selected villages. In the most of villages girls school are separate from boys school. There are one or two temples in every village of lord Shiv and Hanuman All the villages have chopal for marriages and socio political requirements. In all the villages of district Rohtak and Karnal, big water places are available for animals outside the villages. Economic political

Table No. 2.1

“Socio-economic characteristics of the selected villages” from three districts of Haryana

(Names of selected villages)

<table>
<thead>
<tr>
<th>Districts</th>
<th>Name of villages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rohtak</td>
<td>Ghilour Khurd</td>
</tr>
<tr>
<td></td>
<td>Kahni</td>
</tr>
<tr>
<td></td>
<td>Madina Gindran</td>
</tr>
</tbody>
</table>
and social backwardness inhabited the path of development of villages. The name of the selected villages has been presented in the table no 2.1.
2.11 Selection of the house holds

Hamletigation Procedure was adopted for the selection of the households from villages. This method is adopted, in case the selected villages have a large number of households and it is very difficult to list all the households. In this method, a village is divided into various hamlets. Percentage number from total number of households are selected from each hamlet. This is done to include the households from each and every corner of the village. Systematic random procedure is adopted for the final selection of the households.

No of households, which should be taken for study, is also dependent on the source about the number of Marginal Farmers in that village from Patwari of the village. These households have to be spread over the whole district and villages of Marginal Farmers are representative a lot.

The planned number of households could not be strictly included due to some limitation of the study i.e. non availability of data and provision of wrong information by the respondents.

2.12 Tools and Techniques Used

A questionnaire was prepared by the researcher with the help of experts. The reliability of the questionnaire was determined by using test and retest method.

2.13 Procedure of data collection:

In the study, data have been collected by using descriptive or normative survey method.

To obtained data from a sample of 180 respondents, they were divided into 60 Farmers from Rohtak Distt. (20 Marginal Farmers, 20 Small Farmers and 20 Medium Farmers), 60 farmers from Rewari Distt. (20 Marginal Farmers, 20 Small Farmers and 20 Medium Farmers) and 60 Farmers from Karnal Distt. (20 Marginal Farmers, 20 Small Farmers and 20 Medium Farmers). For selection of sample respondents were selected randomly. Before giving them the test, instructions were given relevant to questionnaire.

“Definitions and Data Collection”

We used standard concepts and definitions for the study. A brief account of these is below.
Marginal Farmers: A farmer who owns 2.5 acres or less irrigated land and whose major source of income is agriculture production.

Household: An individual or a household will be taken as a unit of analysis. A household consists of members of a family who partake-meals from the same kitchen. All members of the family share responsibility equally in the household affairs.

Head of the family: The person who recognized by all other members of the household as responsible for taking major/final decision, his considered to be the head of the family. The grown up members are consulted in the important matter concerning family but the ultimate say is that authorized head.

Native: Are those whose parents were the permanent residents of the village from last 50 years.

Migrant: Are those whose parents were not the permanent residents of the village.

Literate: Those who can read and write are treated literate in the present study Individual and joint holder: if the land holding is operated either by one person or by a group of person having members of the same household, the holding is called individual holding If two or more person belonging to different households share jointly (as partners) the economic and technical responsibility for the operation of the agriculture holding, the holding is called joint holding.

2.14 Data collection

The interview schedule has been used as the main two for data collection. An attempt was made to include, as far as possible, the structural questions so that the respondent could give answer without any difficulty. The schedule was protested before it was actually administered. Besides, personal interview method of observation was also used, both to supplement the information collected through interview and to compensate for the possible inaccuracies in the interview data. The observation technique was very simple. It greatly helped in testing the truthfulness of the respondents statement and to arrive at more convincing results. So there is no chance that the obtained data can differ from the actual information or conditions.

In order to analyze the objectives of this study both the primary as well as secondary data have been used. The secondary information has been collected from the related books, journals and
reports. The primary data has been collected with the help of "pre-tested schedule from the sample households.

In the random sampling the individuals are selected from the population in such a way as to afford every individual of the population the same chance of being selected.

**Sampling Unit:** Before selecting the sample, the unit of the sample was decided. The sampling unit may be geographical, structural social or individual. The unit should be definite, clear and unambiguous. The selected unit should be standardized as far as possible and it must be suitable to the problem under study.

**Questionnaire**

The following is condensed list of items on which information was sought from the respondents. Questionnaire was divided into many parts

**Part No. 1**

Information about Identification Particulars, Address, age, caste, marital status etc.

**Part No. 2**

Characteristics of the occupied houses: Type of house, Total number of living rooms, Source of drinking water, Value of house, Separate bathroom, and kitchen, Type of Iatrine used, Air/Light provision etc.

**Part No. 3**

Information about land: Land owned, land mortgaged in, land mortgaged out, leased in, leased out, net operational area, irrigated land, source of irrigated etc.

**Part No. 4**

Particulars of family members: - Name, relation to the head, economic status as earner or non earner, age, sex, level of education, male members, female members, male worker and female worker etc.

**Part No. 5**
Crop wise information and area sown: value of output, seeds, manures, fertilizers, insecticides used, hire charges of tractors, bullocks, and other farm machinery, wages paid in cash, harvesting and others operations.

**Part No.6**

Disbursements: land revenue, canal water charges, cash rent paid, cash wage paid, electricity charges, cost of maintenance the implements.

**Part No:7**

Income from Agricultural Side Lines: Income from dairying, milk and milk product, livestock, agricultural wages,

**Part No. 8**

Income from Non Farm Activities: Income from rent, Income from land leased out, Income from Services, pensions, Income from Shop and self employment etc.

**Part No: 9**

Consumption Expenditure: Consumption expenditure in terms of goods purchased and home produced cereals, pulses, milk and its product, eggs, vegetable, fruits, sugar and Gur, salt and spices, refreshment etc.

**Part No. 10**

Expenditure on others: Expenditure on pan, tobacco, fuel and light, lighting, clothing, footwear, household durable goods and miscellaneous goods and services, education etc.

**Part No 11**

House hold borrowing and indebtedness: Loan from landlords, money lenders, credit societies, Banks, relatives and friends, shopkeeper and merchants.

**Part No. 12**

Exposure to mass media, political and health care consciousness:
The above explanation shows that a very execute and comprehensive questionnaire was prepared covering socioeconomics educational, political and mobility aspects of a household. Prior to the final survey, a pilot survey was conducted and field practical requirements included and deficiencies removed. Code numbers were assigned to possible alternative responses to facilitate processing of the data. Finally the necessary schedules were prepared for the field survey. Systematic editing was carried out on the completed questionnaires based on elaborate pattern of cress checks for internal consistency with in schedules and for consistency as between different schedules filled up for same household.